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Status:	Standard
X11 Release:	23

LDs 36, 41: Trunk Diagnostic

Insufficient space in the Overlay area requires the trunk diagnostic to be split into two programs. Overlay 41 is an extension of Overlay 36. Overlay 41 is not applicable with X11 Release 20 and later software.

The programs allow trunks to be tested from either the Meridian 1/Meridian SL-1 site or a remote test center.

When testing from a Meridian 1/Meridian SL-1 site, individual trunks can be seized and a test call can be performed on the trunk in the normal manner.

When testing from a remote test center, a speech path must be set up to monitor the testing. This is accomplished by having the Meridian 1/Meridian SL-1 system call a directory number (DN) at the test center. This allows for dial tone, outpulsing and test tones to be monitored as tests are performed on other trunks by inputting commands at the TTY.

When a trunk is seized, the system prompts DN? for a DN. When the DN is input, the system calls that number automatically. When the call is answered a pure tone indicates the validity of the speech path. New trunks can be tested in the same manner with the maintenance telephone.

Note 1: When the French (FRTA) package 197 is enabled the units on CO trunks are not busied when they are disabled.

Note 2: When the Trunk Failure Monitor (TFM) package 182 is enabled, a failed trunk is displayed as BUSY. The enable/disable command does not enable or disable the failed trunk unit (it stays in the BUSY state).

When to use LD 36 and LD 41

Use either LD 36 or LD 41 to:

- clear minor alarms and the maintenance display
- query threshold overflows for specific customers and routes
- reset thresholds for specific trunks

Use LD 36 to:

- query number of days since an incoming call was received for a specific customer and route or trunk
- query the trunk with the most number of idle days for a specific customer and route
- query trunks for which no disconnect supervision was received
- test Automatic Number Identification (ANI) trunks.

Note: When defined as a midnight routine, this program searches for trunks not used during the day and updates the total number of days the trunks have been idle.

Use LD 41 to:

- test AIOD (Automatically Identified Outward Dialing) trunks in the system
- enable, disable and request the status of Trunk circuit cards. (Disabled DID trunks are placed in the answer state)

Note: LD 36 and LD 41 can only be used for analog trunks, LD 60 must be used for diagnostics on digital trunks.

Trunk Error Thresholds

Resident programs monitor all calls and note apparent errors. The errors are accumulated and, if they occur consistently (exceed a threshold) on any trunk, a diagnostic message which identifies the trunk is output to the TTY or printer. The trunk should be suspected of trouble and a manual test should be performed on the trunk.

A record is kept in memory for each threshold violation error message. At any time, all trunks which have been identified by such a message may be listed by entering the command LOVF for any trunk route. Once an identifying message has been printed, it will not be repeated for that trunk until the RSET command is entered for that trunk or an initialization has occurred.

Potentially, a trunk may fail by not detecting incoming calls. The Meridian 1/Meridian SL-1 threshold mechanism cannot be used to detect such failures so the Meridian 1/Meridian SL-1 maintains for each trunk a count of the number of days since an incoming call was received on each trunk.

Thus, customer reports that indicate incoming calls are not being processed can initiate a check for the trunk which has been without an incoming call for the longest interval via the LMAX command. This trunk should be tested first.

It is possible to determine for each trunk the number of days since an incoming call was processed via the LDIC command. Subsequent trunk tests should be performed on those trunks showing the highest counts until the trouble is located.

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Basic commands (LD 36)

The following commands are applicable to all machines, except Option 11 systems. See the list of Option 11 commands for further information.

CALL	Set up monitor link with test center
CALL I s c u	Set monitor link with test center on this trunk
CDSP	Clear the maintenance display on active CPU to 00 or blank
CMIN	Clear the minor lamp on a system basis
CMIN ALL	Clear minor alarm indication on all attendant consoles
CMIN c	Clear minor alarm indication on attendant consoles for customer c (not applicable for Release 22)
DISC I s c	Disable specified card for replacement
DISU I s c u	Disable specified unit
END	Terminate test in progress
ENLC I s c	Enable specified card
ENLU I s c u	Enable specified unit
LDIC c r	List number of days since last incoming call for specified customer and route
LDIC I s c u	List number of days since last incoming call on specified trunk
LMAX c r	List trunk with maximum idle days for specified customer and route
LNDS c r	List trunks with no disconnect supervision for specified customer and route
LOVF c r	List threshold overflows for specified customer and route
RAN c r	Test recorded announcement device for specified customer and route
RLS	Release trunk being tested
RSET I s c u	Reset thresholds for specified trunk
STAT I s c	Check card's software status
TRK I s c u	Seize trunk for testing
TPPM I s c u	Test the specified PPM trunk

Note: If a trunk unit is controlled by APNSS, the STAT command will display the status of the D-channel.

Option 11 commands

CALL	Set up monitor link with test center
CALL c u	Set monitor link with test center on this trunk
CDSP	Clear the maintenance display on active CPU to 00 or blank
CMIN ALL	Clear minor alarm indication on all attendant consoles
CMIN c	Clear minor alarm indication on attendant consoles for customer c
DISC card	Disable specified card for replacement
DISU c u	Disable specified unit
END	Terminate test in progress
ENLC card	Enable specified card
ENLU c u	Enable specified unit
LDID c r	List of days since last incoming call for specified customer (c) and route (r).
LMAX c r	List trunk with maximum idle days for specified customer and route
LNDS c r	List trunks with no disconnect supervision for specified customer and route
LOVF c r	List threshold overflows for specified customer and route
RAN c r	Test recorded announcement device for specified customer and route
RLS	Release trunk being tested
RSET c u	Reset thresholds for specified trunk
STAT card	Check card's software status
TRK c u	Seize trunk for testing

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Basic commands (LD 41)

Overlay 41 is not available with X81 Phase 6 and later software or X11 Release 20 and later software.

AIOD I s c	Test AIOD card
AIOD MSG I s c	Output codes transmitted to Public Telephone Rated Service (PTRS)
CDSP	Clear the maintenance display on active CPU to 00 or blank
CMIN ALL	Clear minor alarm indication on all attendant consoles
CMIN c	Clear minor alarm indication on attendant consoles for customer c
DISC I s c	Disable specified card for replacement
END	Terminate test in progress
ENLC I s c	Enable specified card
LOVF c r	List threshold overflows for specified customer and route
RSET I s c u	Reset thresholds for specified trunk
STAT I s c	Check card's software status

Alphabetical list of commands

Command	Description	Pack/Rel
AIOD I s c	Test AIOD card. Not available in Release 9 and later.	basic-1
AIOD MSG I s c	Output codes transmitted to PTRS. Output on TTY all 8-digit codes bring transmitted to PTRS by AIOD card. Response is OK if monitor is set. Not available in Release 9 and later.	basic-1
CALL	Set up monitor link with test center. Same as the CALL I s c command except any PTRS trunk in the system can be selected. The CALL command must be terminated using the * command.	basic-1
CALL c u	Set monitor link with test center on this trunk. (Option 11)	basic-1
CALL I s c u	This command sets up a monitor link (call) between the Meridian 1/ Meridian SL-1 and the test center on the trunk specified. The system prompts "DN?" for the directory number. When the PTRS directory number is entered, the system calls up that number automatically. When the call is answered, a pure tone indicates the validity of the link. This sequence can take up to 14 seconds on a trunk without answer supervision. The END command disconnects the call. The CALL I s c u command is not allowed when the diagnostic program is being run from a maintenance telephone. During the CALL command, On-Hook and Off-Hook signals from the maintenance telephone may initiate BUG105. When the monitor is enabled, a failed trunk is displayed as BUSY. The enable/disable command does not enable or disable the failed trunk unit (it stays in the BUSY state).	basic-1
CDSP	Clear the maintenance display on active CPU to 00 or blank.	basic-1
CMIN	Clear the minor lamp on a system basis.	alarm_filter-22
CMIN ALL	Clear minor alarm indication on all attendant consoles.	basic-1

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CMIN c	Clear minor alarm indication on attendant consoles for customer c. (not applicable for Release 22)	basic-1
DISC card	Disable specified card for replacement. (Option 11)	basic-1
DISC l s c	Disable specified card for replacement.	basic-1
DISU c u	Disable specified unit. (Option 11)	basic-1
DISU l s c u	Disable specified unit.	basic-1
END	Terminate test in progress	basic-1
ENLC card	Enable specified card. (Option 11)	basic-1
ENLC l s c	Enable specified card. If the card resides on a disabled shelf, its status is output and the enable is not performed. If the card has been disabled by an overload, the overload status is cleared.	basic-1
ENLU c u	Enable specified unit. (Option 11)	basic-1
ENLU l s c u	Enable specified unit. If unit resides on a disabled shelf or card, then status is output and enable is not performed.	basic-1
LDIC c r	List number of days since last incoming call for specified customer (c) and route (r).	basic-1
LDID c r	Number of days since last incoming call for specified customer (c) and route (r). (Option 11)	
LDIC l s c u	List number of days since last incoming call on specified trunk.	basic-1
LMAX c r	List trunk with maximum idle days for specified customer and route	basic-1
LNDS c r	List trunks with no disconnect supervision for specified customer and route. (trunks for which no disconnect supervision was received, i.e., terminating party not going On-Hook after a call)	basic-1

LOVF c r	List threshold overflows for specified customer and route. The overflows are set when the resident trunk monitor outputs a diagnostic	basic-1
RAN c r	Test recorded announcement device for specified customer and route.	basic-1
RLS	Release trunk being tested.	
RSET c u	Reset thresholds for specified trunk. (Option 11)	basic-1
RSET I s c u	Reset thresholds for specified trunk.	basic-1
STAT card	Check card's software status. (Option 11)	basic-1
STAT I s c	Check card's software status.	basic-1
TPPM I s c u	Test the specified PPM trunk. This command is not applicable when the Meridian 1/Meridian SL-1 is connected to 1 TR 6 international ISDN PRA.	basic-1
TRK c u	Seize trunk for testing. (Option 11)	basic-1
TRK I s c u	Seize trunk for testing. Seizes the specified trunk for outpulsing and testing. If the command is issued from a maintenance telephone, dial tone is heard followed by outpulsing when the directory number is entered. If a trunk is to be seized for outpulsing and testing from a remote test center (not a maintenance telephone), a monitor link must first be set up using the CALL I s c u command. This must not be over the trunk to be tested. With the monitor link set up, the TRK I s c u command is input to select the trunk to be tested. The system then prompts with "DN?" and the directory number is input via the TTY. Normal speech path connections are made between the monitor link and the trunk being tested. Disconnect by entering END, by going On-Hook if an SL-1 telephone is used or by entering *. END also disconnects the monitor link. This command cannot be used to seize an ISL trunk.	basic-1
